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Park House.

St John's Wood Park

London

13. 1. 79

Professor O. C. Marsh,

My dear Sir,

Allow me to thank you most sincerely for your very valuable Essay received this morning - which I found so fascinating that I could not help at once reading it through, + writing to thank you by same post.

As a very small return I send you a number of the Popular Sc. Review, containing a short article of mine which I believe will interest you.

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You will see that I am opposed to the great antiquity assigned to even the Dakota group - & this, not only on account of the flora, but of the invertebrate fauna contained in it -

I confess that in reading your account of the vertebrates, although their evidence ^{taken} alone seems to establish conclusively the Cretaceous age of the beds - it is not strong enough I believe to outweigh that of the other fossils - It does not correlate the American Cretaceous series with any of our British Cretaceous rocks, but rather tends to show that the American strata are newer - Thus the absence of Ichthyosaurs & Plesiosaurs in America, the rarity

5972
of Mosasaurus in Europe is a sort of proof that the series are not contemporaneous - Our plesiosaurs too I believe show a tendency to ~~point~~ ^{take} on Pliosaurian character towards the close of our Cretaceous (see *Elasmosaurus* of the fault.) The Pterosauria are both less & of more modern type than ours - The prevalence of birds, which are almost unknown in our rocks, & the presence of the modern-favial type - all point to a newer & younger stage of the Cretaceous than any we have represented here -

I can't agree with you that vertebrates are more important to the question than invertebrates & plants, & I think that the identification of a number of actual species of plants from the *Le Lignites* with

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those of our Middle Eocene, fix's
conclusively the age of the former -

I trust you will pardon me
for venturing to differ from you on
these questions - I was led to think
about them first by comparing
the British + American Cretaceous
Inollinea together + then by working
at our Eocene flora - I have only
finished the ferns, but 3 out of
the very few known from the
Lo. Tertiary are identical with
species in our Middle Eocene - +

when the dicotyledons are described
an even larger proportion will be
found to be common - Again thank
you + with sincere respect, believe
me very truly yours
J. Gardner

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J Damer T mace

Chelsea

14th Sept 85

Prof. Marsh

My dear Sir

I had to return here on Saturday afternoon. - On that morning a paper was read on a reptile from a quarry of red sandstone which I understood was to be visited on Thursday. -

Prof. Judd insisted very strongly that because reptiles were found in it, it must be of Triassic age. - He would not admit indeed that there were two sides to the question. The Survey officers present were unconvinced & continue to regard it as Old Red. - It seems to me

an instance so opposite to what
you were telling me of the occurrence
of Dicotyledons in America, that
if present at the excursion you
might mention that as a caution.
It seems to me that if as mammals
are found in the Trias it is pretty
well certain that reptiles may be
looked for in very much older rocks,
and that the local character of the
Trias sandstones precludes the idea
that all the isolated basins were
deposited at one time. If the
views of Prof. Judd pass unchallenged
there would be a bar set up to all
progress - Reduced to a bald statement
it was "that the rock in question
could not be older than Trias because
it contained reptiles" - He also

stated that there was no stratigraphical
evidence, but as the lower part of
the quarry is admittedly Old Red,
it should rest with him to show
that there is a break in the strata
between the known Old Red beds
& the overlying reptilian zone.

I must apologise for writing
to you on a subject about which I
am ignorant, but it appeared to
me that and those who sat near
me that the views of the Survey
were unbecomingly talked down, &
that no time was given them in
which to make any adequate reply.

Any of the Scotch geologists would
give you all particulars & I of course
do not care to take part in a discussion
so much off my own track.

Yours very faithfully
J. Starkie Gardner.

Over

P. S. I should much like to
meet you if you have any time to
spare in London + to show you
my plants - The beds I am
referring to are of course the Elgin
sandstones no doubt well known to you.